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ABSTRACT

Since the early 1980s, blue ribbon commissions and task forces have focused their attention upon identifying problems and suggesting solutions to shortcomings within the public educational system. Some of the questions that can be raised include the following: (1) Who are these citizens interested in educational practices? (2) What solutions have they proposed? and (3) How is public education linked with the health of the American economy? This paper addresses these questions as well as providing a view of the educational reform movement from the perspective of a vocational educator. Successful practices within the field of vocational education are identified with special emphasis upon the cooperative education method. The paper is organized in four sections. The first section provides a definitional focus for examining the educational reform movement. Section 2 contains a summary of 11 commission findings and recommendations. The effects of reform recommendations upon practices in public schools are reviewed in the third section. In the final section, strategies for implementing recommendations, including an expansion and updating of cooperative vocational programs, are proposed. (KC)

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THE ROLE OF COOPERATIVE VOCATIONAL EDUCATION IN THE EDUCATIONAL REFORM MOVEMENT

COOPERATIVE WORK EXPERIENCE EDUCATION ASSOCIATION

Executive Advisory Council

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INTRODUCTION

Since the early 1980's, blue ribbon commissions and task forces have focused their attention upon identifying problems and suggesting solutions to shortcomings within the public educational system. Who are these citizens so interested in educational practices? What solutions have they proposed? How is public education linked with the health of the American economy? This paper will address these questions as well as provide a view of the educational reform movement from the perspective of a vocational educator. Successful practices within the field of vocational education will be identified with special emphasis upon the cooperative education method.

The first section of the paper provides a definitional focus for examing the educational reform movement. Section two contains a summary of eleven commission findings and recommendations. The effects of reform recommendations upon practices in public schools are reviewed in the third section. Strategies for implementing recommendations, including an expansion and updating of cooperative vocational programs, are proposed in the final section.

SECTION ONE - THE EDUCATIONAL REFORM MOVEMENT

Definitions

Since the decade of the 80's began, community, business, and political leaders have examined, probed, poked, critiqued, and discussed shortcomings in public education practices. For those inside education, the examination process may have been uncomfortable and sometimes painful. The ultimate goal of this intense public examination is to restore high quality standards to education. If the excellence crusade is to continue in a forward and positive direction, educators must listen carefully to both vocal and silent calls for change. Unfortunately, many different commissions and task forces have been formed since the decade began. An informed observer needs a program or agenda to stay current with the volume of reports, public hearings, and press conferences designed to highlight each group's viewpoints. Street-level educators, busy with the daily operation of the nation's schools, have difficulty keeping track of the multivariate opinions of numerous groups. If practitioners cannot sort out the requirements for change, they may find difficulty implementing recommended changes.

Educational reform task forces and commissions have identified many outstanding educational practices and programs across the country. Some reports advocate large-scale revisions in existing policies; others simply point out deficiencies and leave the solutions for professionals to discover and implement. One way to more effectively sift through the myriad of recommendations is to borrow and apply some concepts from economists.

The purposes and goals of organizations (i.e., school systems) can be examined by breaking resource components into three categories. Inputs

are the resources put into the educational system (for example, curriculum materials, administration, teachers, time). As the organization operates, process variables can be identified. Instructional and curriculum standards, homework, student progress, attendance, disciplinary policies and teacher supervision are examples of ways to improve the allocation and use of operational resources. Outputs reflect the results of resource allocation and utilization. High school graduation requirements, postsecondary and college admission standards, minimum competency testing, grading policies, and differentiated diplomas illustrate results (Duke, 1985).

Many of the recommendations offered by reform commissions have focused on the output component within the educational system. Duke (1985) remarks that attention to outputs is predictable because output control is cheaper than than input or process monitoring. Raising teacher salaries or creating a workable merit pay plan (input) is more costly and difficult to implement than developing a new achievement test or adding graduation requirements (output). Development time may also be a factor when choosing input, process, or output variables. Attracting, retaining, and retraining teachers (input) involves more time-consuming and complex practices than does rewarding the performance of outstanding students (output).

While examining findings and recommendations from reform commissions, a helpful strategy is to identify the input, process, and output components. Another is to keep in mind time and cost factors for implementing the recommendations. An economic analysis strategy offers one method for educators eeking assistance in understanding educational reforms.

American Economic Productivity

Why is the public so interested in education at this point in our nation's

history? There are several reasons for increased public awareness with respect to education's role in our national productivity.

1. The capacity of the United States to compete in world economic markets has diminished and weakened. Improvements in public school programs may help produce better-prepared young adults.
2. Achievement test scores have declined over the last fifteen years - a visible marker for public focus.
3. Positive practices and successful education programs often go unheralded. Street-level educators are busy working on what's right in schools, limiting their ability to toot their own horns. A few research studies have identified exceptional programs and practices but it's easier to focus upon the weaknesses (outputs) than reward and expand the good practices (inputs and process).
4. Commissions and task forces work independently. It may be difficult for any one educational group, association, or leader to synthesize all the reports or anticipate the discussions of existing and future commissions.
5. Educators are perplexed concerning: a) the ways to keep alive the public interest in education; b) who should implement what suggestion; and c) the ways to close the gap between problem identification and program improvement. (Howe, 1983)

One theme surfacing most often as impetus for commission and task force interest is economic competition. Several reports have been issued by business advisory arms of educational groups or corporate sponsors. Business representatives are interested in bottom-line results (i.e., better-prepared workers) as American free enterprise struggles to compete in an increasingly

complex and technological world-wide market. Educators want public interest to remain intense long enough to allocate the financial resources necessary to implement improvements. Educators do not have the operating freedom of corporate leaders. Education must respond to a variety of voices before new programs can begin. Corporate leaders can request change and watch it rapidly develop; educators must work more slowly.

Because the economic development theme occurs so often in commission reports, vocational education should pay close attention to the public outcry. In the reports, vocational education receives its share of criticism and praise. Even in the earliest reform reports, when direct references to vocational education are absent, many invisible references to current vocational practices may be discerned. Cooperative vocational education programs have consistently received positive recognition. The next section of this paper provides an in-depth review of eleven recent reform reports, with special attention upon cooperative vocational education programs.

SECTION TWO - THE EDUCATIONAL REFORM MOVEMENT

General Summary

Howe (1983) classified the conclusions and recommendations of several reform commissions into one of these categories:

1. Achieve greater public consensus for the goals and priorities of education. (INPUTS)
2. Identify a "common core" of learning for all Americans. (OUTPUTS)
3. Increase the requirements for high school graduation and college admission. (OUTPUTS)
4. Attract, retain, and retrain more able teachers. (INPUTS)

5. Direct more attention to homework, time in school, basic skills, higher-order thinking skills. (PROCESS)
6. Restructure internal practices of schools by improvements in instructional, classroom, and leadership practices. (PROCESS)
7. Develop strategies to meet short-term critical shortages in teaching ranks. (INPUTS)
8. Define and develop a strong federal role in education. (INPUT)
9. Seek partnerships with business, industry, postsecondary and higher education. (INPUTS)
10. Create a new balance between excellence and equity. (INPUTS)

Vocational educators should be active participants in defining the goals and priorities of education (#1). A proactive stance is easier to defend than a reactive one. Being an active planner and part of the decision-making group provides more effective long-term benefits for vocational education students. If others design the parameters, there may be complex difficulty when implementing the goals.

Many reform reports stress the need for developing new partnerships with business and industry (#9). Vocational education has a history of such partnerships but in many areas the connections have withered, weakened, or broken. Knowing business' bottom-line demand for broadly rather than narrowly trained workers should provide vocational educators insight for strengthening and renewing business-industry ties. Cooperative vocational education programs have direct ties to employers and may also need retightening or lubrication. Some cooperative vocational education programs have become stale and listless regarding regular quality employer contact. Other programs have neglected or omitted important cooperative education elements. Some borrow the cooperative

vocational education label but are only weak excuses for dismissing students early from school. All of these weak characteristics need immediate attention by cooperative vocational education professionals, especially because many report recommendations highlight cooperative education programs and practices.

Some report recommendations create negative consequences for vocational education programs (#3, #4, #5). As school leaders rush to silence public critiques, the focus on outputs (graduation requirements) remains a solution. Even while educators are pleased with increased attention for public schools, the pinpointing of failures and absence of praise is uppermost in the minds of many educators chosen to implement changes. Resource allocation for vocational education programs is substantial, considering the combined federal, state, and local support. Resources can be eliminated as well as expanded, and some administrators may eliminate expensive programs by both direct and indirect (increasing requirements for admission or graduation) means. Resources for cooperative vocational education programs have fluctuated over the past twenty years. Future planning for expanding cooperative vocational education programs should proceed cautiously while optimistically striving for program improvement.

Creating or maintaining a balance between equity and quality is especially acute for vocational educators (#10). Legal mandates insist upon servicing minority and special needs populations. Creating reachable challenges for these students is a continuous goal for vocational educators. More awareness of students' potential in the workforce is needed by both the general public and employers. Alienated and disadvantaged 16- to 24-year-olds are "at-risk" in permanently discarding society's citizen and worker roles (Currence, 1985; Education Commission of the States, 1985). These youth, unable to function in the regular school environment, face increasing despair and elect to exit

the system as educational requirements tighten. Since vocational education programs have traditionally provided services to minority, special needs and alienated populations, some danger exists that simple solutions to complex problems will be sought by tracking all special needs populations solely into vocational programs. Equity and quality strategies must be identified by vocational educators before any simple solution is found.

Educational Report Recommendations Important for Cooperative Education

EDUCATION FOR TOMORROW'S JOBS (Sherman, 1983)

Rationale:

This report outlines how vocational education, with private sector business and industry, can improve employability of entry-level youth and enhance the American economic picture.

Findings:

1. In a rapidly changing economy, job skill requirements are uncertain for future occupations. America's youth must be able to adapt to changing job requirements. "All students, whether they plan to work immediately after high school or not, should be prepared to reenroll in education or training programs as necessary throughout their lives in order to update their job skills." (Sherman, 1983, p. 21) Public education is the institution responsible for ensuring that youth are effectively prepared for both work and further education.
2. Through direct contact with employers, students enrolled in cooperative education programs are likely to develop positive work habits, establish an employment record, and have an easier time finding employment after graduation.

3. Vocational education programs utilizing the cooperative education method share common characteristics. Student supervision is carefully conducted by both teacher-coordinators and employers. Students work alongside other employees so they may observe practical and effective work habits. Students attain job skill proficiency through a combination of knowledge and skill mastery rather than the passage of time.

Recommendation:

Successful completion of cooperative vocational education components should be based on skill and knowledge demonstration rather than time. Training plans must be developed and reviewed periodically. On-the-job learning must be directly related to classroom instruction.

VOCATIONAL EDUCATION IN THE COMPREHENSIVE HIGH SCHOOL (David, 1983)

Overview:

The American Vocational Association conducted a public hearing about vocational education programs and practices in comprehensive high schools. Testimony was gathered and compiled into a paper addressing three areas:

- functions and positive values of vocational education programs in the comprehensive high school
- deficiencies in these programs
- strategies to correct the deficiencies and enhance the quality of vocational education programs in comprehensive high schools

No new ideas or exemplary programs were reported. This paper was the first effort to highlight excellence in vocational education.

BASIC SKILLS IN THE U.S. WORK FORCE (Henry and Raymond, 1983)

Rationale:

The workforce in the United States is moving from manufacturing and industrial processes to the service, technology, and information areas. The Center for Public Resources (CPR) and the Task Force on Corporate Roles in Public Education were charged with defining basic skills deficiencies of employees from the perspective of businesses, unions, and schools. A national survey of corporations, trade unions, and schools was conducted to identify these perceived deficiencies. A clearinghouse of model school-business partnerships is maintained by CPR and a human resource program was created to apply business resources more effectively to overcome basic skills deficiencies.

Findings:

1. Business and school systems significantly differ on the definition of "adequate" basic skills preparation. Seventy-five percent of the school respondents felt that the majority of graduates were adequately prepared for workforce success. The majority of companies responded that workers significantly displayed deficiencies in basic skills.
2. A clear definition of "basic skills" was absent as a result of the survey. Schools underestimated the importance of basic skills in the workforce yet business could not clearly pinpoint which basic skills areas were deficient.
3. Educators chose reading skills as most frequently deficient. Conversely, businesses and unions identified speaking, listening, mathematics, and scientific skill areas as deficient.

4. In all job categories, even low-skilled ones, both businesses and unions noted widespread inadequacies in science and mathematical applications. Basic physical science knowledge is important for most jobs, even office and factory ones. Educators placed little importance or value on this applied knowledge in the workplace.
5. Business seeks new employees as a long-term investment in human resources rather than for narrow entry-level positions. Workers deficient in basic skills have difficulty in job advancement and career mobility.

Recommendation:

School-business partnership programs rarely address basic skill development. CPR highlighted programs that combined basic skill learning with on-the-job training. Cooperative education was the most common partnership program identified. Basic skills instruction was seen as most effective when directly related to learning in the workplace. Cooperative education students were highly motivated in both academic and job-related instruction. A few business critics of cooperative education noted the expense in student-worker supervision. Some educators negated the effect of academic skill development as a product of participation in cooperative education programs. Criticisms of these types must be addressed and answered by cooperative vocational educators so that needed improvements will be made in program procedures.

EXCELLENCE IN SECONDARY VOCATIONAL EDUCATION (Magisos, 1984)

Overview

This paper provides a review of recent reform reports and a limited number of research studies with specific attention to secondary vocational

education programs. The major conclusion was that the reform reports indirectly address needs and reforms for vocational education programs. Nunez and Russell (1981) found that employers prefer hiring vocational graduates because less employee training is needed. Employees value vocational education's training in employability and occuational skills. Galambos (1984) identified 10 policy issues in vocational education. One topic addressed the opportunities available to expand cooperative vocational education programs as an alternative way to offer skills training in the comprehensive high school.

THE UNFINISHED AGENDA (Lotto, 1984)

Rationale:

The National Center for Research in Vocational Education appointed the National Commission on Secondary Vocational Education. Public hearings were held to investigate research and practices, and to recommend strategies for vocational education program improvement. This commission was the first group specifically charged with developing a quality examination of secondary vocational education programs.

Findings:

Vocational education serves two major functions: as a body of knowledge and as an educational process. When examining vocational education as an educational process, one sees that vocational education contributes to excellence in the areas of problem-solving and analytical skill development. Basic communication and interpersonal skills are emphasized in applied and small-group settings. As an educational process, vocational education promotes the ability to gather and analyze information, use scientific inquiry and

reasoning methods, appreciate technological development, and understand the basics of the American free enterprise system. One strength of vocational education is its motivational attraction for students. Earlier excellence reports stressed the need for alternative instructional practices and more hands-on learning. Vocational education programs utilize these methods.

Recommendations:

1. Expanding the use of the cooperative education method of instruction is one method for improving vocational education programs. Field-based learning is an important experience for every student. For vocational students, a cooperative education experience should be a required component - a capstone element - in every secondary vocational education program. Cooperative education experiences contribute significantly to student maturity and employability growth. The number of cooperative education programs and student-participants should be significantly increased.
2. "Secondary vocational education programs develop self-esteem, positive attitudes towards work, safe work habits, job-seeking skills, and and other general employability skills." (Lotto, 1984, pp. 25-26; Silberman, 1984)

HIGH SCHOOLS AND THE CHANGING WORKPLACE (National Academy of Sciences, 1984)

Findings:

1. Individuals who seek career promotions are those with an ability to learn and to adapt to workplace changes.
2. Although vocational education programs provide specific job skill training that enhances an individual's employability, students must not forego education in the core competencies.

3. Positive work attitudes and habits are essential employee skills. As employees participate in more workplace decision-making, the ability to work as a team member and offer constructive input is extremely important. Employers place a high value on worker reliability and cooperation.

Recommendation:

Career information, guidance, and cooperative education programs must be jointly developed by schools, employers, government, students, and other interested public groups.

INVESTING IN OUR CHILDREN: BUSINESS AND THE PUBLIC SCHOOLS (Committee on Economic Development, 1985)

Rationale:

The Committee on Economic Development (CED) is composed of 200 members from the highest ranks of the academic and business world. For over forty years, this nonpolitical group has been concerned with strategies to develop maximum economic productivity. The research and policy subcommittee devoted its attention for more than two years to a study of American education. From an earlier study of American productivity, this group found productivity and education intertwined. Before the National Commission on Excellence was formed, CED examined the relationship between schools and business in this country. CED knew that the quality of the educational system determined the quality of the workforce. Corporate relocation decisions are affected by the quality of local educational services. The educational level of consumers affects their income and lifestyle. Finally, education provides business with opportunities for research and development activities.

Findings:

1. CED conducted a survey to determine from employers of entry-level workers what attributes and skills were most valuable to successful job performance. Both large and small companies were contacted (large sample = 438; small sample = 6,000). Responses were returned from 56% of the large companies (244) and 10% of the small companies (646). Sixty attributes of successful workers were grouped into 10 clusters. These clusters are listed and ranked in priority order in Table 1.

TABLE I

Good Worker Attritutes as Rated by Small and Large Companies

Good Worker Attribute	Large Company Priority	Small Company Priority
1. Strive to do work well	1	1
2. Set priorities and work under pressure	3	3
3. Solve problems and make decisions		
4. Work well with others		4
5. Communication skills	4	
6. Learn how to learn	2	2
7. Follow safety rules		
8. Computational skills		
9. Clerical skills		
10. Mechanical skills		

Employers were not interested in workers' narrow vocational skills. Instead, they preferred workers with literal, communications, and mathematical skills combined with problem-solving abilities,

willingness to learn, and adaptability to change. Employers desired workers with attributes such as self-discipline, self-reliance, teamwork, responsibility, and respect for others. Business uses employee participation in company decision-making, and skills oriented towards team-building, problem-solving, and general communications are essential. Workers today can expect several career roles over a productive lifetime. Adaptability , flexibility, and willingness to continue learning are personal attributes required of successful workers. Narrowly-trained or unskilled workers will have little or no future in the workforce of tomorrow.

2. CED believes the term "vocational education" needs clarification to include only those programs designed to prepare students for employment. Distinction needs to be clearly made between such programs as specific entry-level employment; exploratory, career-choice programs; employability skills instruction; career guidance and counseling; and cooperative vocational education programs. Two major criticisms of current vocational education programs were made clear in the CED report. First, too many vocational students do not possess basic academic and behavioral skills prior to entering vocational education programs. They enroll in courses with deficiencies the vocational instruction cannot address or remediate. Secondly, many vocational education graduates learn specific skills that are outdated or not relevant for today's workforce. Vocational educators should address these critiques.

3. "There are certain types of vocational programs that can make an important contribution to a student's later employability. One

example is COOPERATIVE EDUCATION, which is a carefully worked out joint program between schools and employers. THE KEY TO THE PROGRAM'S SUCCESS IS THAT IT STRESSES ACADEMIC INSTRUCTION AS AN INTEGRATED PART OF THE VOCATIONAL CURRICULUM. This and other career-based work experience programs appear to improve a student's future labor market success and earnings potential." (p. 33)

4. The setting or type of school offering vocational education programs was also a concern of the CED study. Area vocational schools, with centralized support services and equipment, "appear to provide better quality instruction and vocational resources" (pp. 33-34). Vocational high schools (with a general, not job-specific, curriculum) and neighborhood comprehensive high schools have inferior vocational instruction. In these schools, the vocational education and academic programs compete for resources and both programs suffer.

Recommendations:

1. Success as entry-level and upwardly mobile workers requires an educational background in communications skills, self-discipline, problem-solving, decision-making, and the ability to acquire and apply new knowledge.
2. One approach to create closer cooperation and partnerships between schools and business (without asking for additional financial contributions from business) would be to develop a "feedback mechanism" for employers to regularly provide schools with information about graduates' success in the workforce.
3. Students seeking entrance into occupationally-specific vocational education programs must demonstrate mastery of fundamental

communication, computational, and problem-solving skills. Vocational education majors should complete a core academic curriculum in conjunction with their occupational skills training.

4. A CAREFUL EXPANSION OF COOPERATIVE EDUCATION PROGRAMS, ESPECIALLY IN SCHOOLS WHERE THEY DO NOT NOW EXIST, SHOULD BE BEGUN. Secondly, more research about cooperative education programs, especially an analysis of outcomes, is essential. Third, business should participate in program expansion by employing students and evaluating successes.
5. A gradual elimination of separate and unequal comprehensive and vocational high schools is advocated. Special attention to the unique needs in rural and isolated areas should be given so that quality vocational education is available for every student.

BARRIERS TO EXCELLENCE: OUR CHILDREN AT RISK. (National Coalition of Advocates for Students, 1985)

Rationale:

"At risk" children - the poor, handicapped, female, or non-white - have been ignored in the descriptions and recommended changes for public schools. The National Coalition of Advocates for Students was formed to address the needs of at-risk youth. The approach was to examine education from the "bottom-up" rather than "top-down."

Findings:

1. Subtle discrimination exists in the form of decaying physical plants, scarcity of classroom materials, tracking and discipline procedures, inequitable school financing, and student misclassification into special needs categories.

2. Achievement testing creates a negative effect on school practices. Testing narrows the curriculum content and promotes teaching to the specific test. Minimum standards become accepted as maximum by both educators and students. Innovation beyond the test is impossble in some school systems. Achievement test scores become limits rather than indicators of success.

3. A smoother school-to-work and youth-to-adulthood transition is needed for all students but especially for the 25% of youth classified as dropouts and the 40% of high school graduates who immediately enter the workforce.

Recommendations:

1. Move vocational education from the narrow focus upon specific and often obsolete job skill training to a broader orientation of preparing students for the workforce of tomorrow. Cooperative education programs have proven successful in combining the best features of school and employer participation in young people's education. A comprehensive school-to-work transition program for all youth is desirable and necessary.

2. Counseling services for both college-bound and work-bound youth should be strengthened.

3. Communities should develop councils to address and solve local economic problems, especially in light of job creation and vitalization for youth.

4. More equitable and adequate school finance systems must be developed and implemented.

5. The rights of disadvantaged youth need continuous attention from federal, state, and local governmental bodies and agencies.

RAISING STANDARDS AND RETAINING STUDENTS: THE IMPACT OF REFORM RECOMMENDATIONS ON POTENTIAL DROPOUTS. (Tugend, 1985)

Rationale:

The authors of this paper examined the recent recommendations of reform commissions and combined these with known facts about the characteristics of early school leavers.

Findings:

1. Raising academic standards may encourage greater effort from some students but may also push marginal students out of the school system.
2. The last few years have shown a rise in achievement test scores. The higher scores may reflect the omission of scores from those students who dropped out before they were required to take the test or submit to remediation efforts.
3. Higher academic standards and longer school days (years) may lead to fewer student choices in their educational program. A more elaborate, larger, or limiting classification system, based upon student ability, is also a likely result of reform efforts.
4. Higher academic standards, fewer opportunities for choice, less time and fewer chances for remediation may create more student failures.
5. Students not able to receive help and attention to achieve the higher standards will likely exhibit higher frustration, truancy, and absenteeism and contribute to more school-related behavioral problems.

RECONNECTING YOUTH: THE NEXT STAGE OF REFORM (Education Commission of the States, 1985)

Rationale:

At-risk youth - those who are alienated (lack motivation) and disadvantaged (economically and academically) - may cost a loss in business productivity and government tax revenue of up to $20 billion each year. The Business Advisory Committee of the Education Commission of the States examined the critical issues surrounding at-risk youth. In 1984, 3 million 16- to 24-year olds were looking for work. Almost 400,000 others were discouraged and had given up seeking employment. All are in danger of becoming permanently disconnected from obtaining satisfaction in their careers and lifestyles.

Findings:

Entry-level jobs, especially in service and information areas, are increasing. Many of these positions have been filled by young adults. The number of young adults available to fill these positions is decreasing. At-risk youth, a group not interested in seeking traditional rewards from education and work, increase in number each year. As the at-risk group increases in size, more youth are removed from the labor pool of entry-level positions. As the demand for entry-level workers increases, the youth supply decreases, due to both natural demographic causes and to increases in the numbers of disconnected, at-risk youth.

Recommendations:

1. Businesses should participate in cooperative education programs, as these effectively help students connect with adult role models in the working world.

2. Dropouts should be permitted to drop back into school, preferably into alternative schools and cooperative work experience programs.
3. Business should develop incentives for employees to stay in or return to school. (Mirga, November 1985; Currence, 1985b)

REFORM EFFECTS

Numerous strategies to achieve excellence have been proposed during the first half of the 1980's. Many reports listed narrow and specific strategies; some of these have been implemented in school districts across the nation. Other reports, citing general concepts rather than specific recommendations, have become the umbrella under which a variety of reforms have been collected. Many good strategies have been implemented; many poorly-planned ones have created new problems for public school systems. Table 2 shows the results of a survey of state reform initiatives.

TABLE 2

State Reform Activities (January 1985)

Activities	Number of States		
	Yes	Under Consideration	Variable
Teachers			
Career Ladder/Merit Pay	14	24	Input
Salary Increases/New Minimum	18	17	Input
Competency Tests	29	10	Input
Certification Revisions	28	16	Input
Students			
Additional Instructional Time	13	7	Process
Reductions in Class Size	13	7	Process
Limit Extracurriculars	6	4	Output
Raised Graduation Standards	43	5	Output
Required Exit Test	15	4	Output
Promotion Test	8	3	Output
Statewide Assessment	37	6	Output
Raised College Standards	17	3	Output

(Tarr, 1985)

A cursory survey of summer school programs was conducted in 1985 (Chion-Kenney, 1985). Summer school enrollments increased dramatically in Los Angeles, New York City, Philadelphia, Austin, Texas, and Miami. School officials credited the increases to stricter promotion and graduation

requirements. In Austin, many students chose summer school classes to comply with the "no-pass, no-play" rule for extracurricular activities.

Effects of school reform are shown by increasing numbers of students dropping out of school. In Texas, two years after legislation was passed to increase graduation requirements and require student competency testing, forty-three percent of high school principals responding to a survey indicated their school dropout rate had risen since 1984. Before the reform legislation, the annual high school dropout rate was near twenty-six percent. The 1986 rate is expected to reach forty percent. Survey results also reveal that thirty-eight percent of the principals reported an increase in disciplinary problems between 1984 and 1986. Forty-one percent reported declines in enrollment in vocational education courses (Mirga, 1986). In Boston, civic and school leaders are also concerned with increasing numbers of high school students leaving before completion of graduation requirements. Forty-three percent of the 1981 freshman class dropped out before graduation while forty-two percent completed their studies and graduated. Boston officials estimate that for each new class of students progressing through the high school ranks, dropouts account for a $228 billion loss in lifetime earnings to the economy and a loss of $68 billion in tax revenues for all levels of government (Rodman, 1986).

Although reforms are being initiated and state budgets reflect increases in spending for education, some key school-improvement measures have not been discussed (Bridgman, 1985). The process variables, those items affecting operational practices in education, have not been adequately studied. Howe's conclusion that outputs are easier to control for cost than inputs or process variables seems to be correct. Many reform initiatives are too new to evaluate

yet. School systems need time to make changes and work with students under new guidelines. Short-term results may not be accurate measures of the excellence/reform moves to improve schools.

Effects within Vocational Education Programs

The immediate effects of increased standards for promotion and graduation are visible in elective subjects like vocational education classes. Eighty percent of the respondents in a recent survey of secondary vocational educators reported a decrease in time allowed for students to enroll in vocational education courses (Hooper, 1985a). Some vocational education programs have previously been scheduled in 2 to 3 hour blocks of time. As students find they must complete more academic requirements, less time is available for their enrollment in elective courses. In addition, college admission standards have increased in many states, creating less time for elective subjects for those students seeking college entrance.

Enrollment in vocational education courses is beginning to show a decline. Some vocational education leaders are fearful that a severe drop in program enrollment will soon occur. More than two-thirds of the vocational educators canvassed reported declining enrollments in their classes over the last three years. The fears that certain student groups, at-risk youth or employment-bound students, will receive fewer chances and opportunities for quality programs seems to be materializing.

One traditional measure of the effectiveness of vocational education programs in preparing skilled workers for the workforce has been the number of graduates employed in jobs for which they received training. Three states require that vocational education programs find training-related employment for a minimum number of graduates. (Hooper, 1985b) Florida requires secondary and

postsecondary vocational education programs to show that at least seventy percent of graduates are either in the military services, enrolled in further education, or employed using knowledge and skills learned while enrolled in the program. If an individual program fails to meet this placement standard during three consecutive years, funding for the program will be cut off.

In South Carolina, where sixty-five percent of all high school students are enrolled in vocational education programs, educators must prove that over a three-year period at least fifty percent of available graduates are employed in jobs related to their training. "Available" for employment is defined as those individuals who are not in higher education, the military services, or not interested in working. Many vocational education programs operate in isolated, rural communities, and meeting this standard creates difficulty.

Pennsylvania offers a different approach for reforming vocational education. Programs with high placement rates of graduates employed in related areas or enrolled in a related postsecondary vocational program are eligible for more state funds; programs with low rates face a partial or total loss of funding. Linking placement to financial support for vocational education programs is one trend that needs careful examination.

The Assistant Secretary for Educational Research and Improvement for the U.S. Department of Education, Chester Finn, Jr., proposed one way to balance the reform measures with student needs. For students who cannot meet higher academic standards requiring them to take the same courses as college-bound students is not the answer. The opposite view, requiring little academic instruction and heavy emphasis upon vocational training, is also not acceptable as employers continue to stress their desires for broadly trained individuals. Finn's approach meets increased academic requirements, employer

demands, and student choices. This plan would allow work-bound students to enroll in most of the same courses as college-bound students. Course work should be different in during the 11th and 12th grades. College-bound students might study Shakespeare or the periodic table of the elements. Work-bound students would be taught to acquire and apply the same higher-order thinking skills with different subject matter, such as ways to decipher and use a training manual, communicate through written media to business colleagues, or use scientific reasoning to solve work-related problems.

Finn's plan is one approach that addresses the process variables. The content of academic courses can be altered to reflect the demands of employers concerning basic skills use in the workforce. Employers have difficulty in specifying exactly how workers use basic skills and where deficiencies exist. If educators are committed to quality improvements, then they must help employers identify their needs. Partnerships between schools and businesses must begin with educators' acceptance that employers are directly related to and interested in student success. Until educators accept this partnership, significant improvements in the process of education will not occur.

STRATEGIES FOR THE FUTURE

The reports and recommendations in this paper were selected reflecting the the need for improvement in vocational education programs. Different commissions recommended similar changes that vocational educators should carefully examine. Employers, who are the consumers or buyers of vocational education's product, do not want graduates with narrow vocational skills. American workers must continually revise and update their occupational knowledge and skills. Secondary vocational educators must communicate the message of

lifelong learning to their students. With student attention focused upon end markers such as promotion/graduation requirements, achieving academic standards to pass competency assessments, or other exit requirements, students may find difficulty in realizing the importance of career changes and lifelong learning.

Educators know that the passage of time aids in sorting out short-term quirks, but current public interest in education is centered on short-term results. Besides implementing changes and revising practices, educators will have to inform different community groups about the effects of both short- and long-term reforms. The fear that public interest in education may be short-lived is valid. Educators must begin active, rather than reactive, planning and operating procedures. If education in general is faced with the dilemma of providing both short-term and long-term improvements, in what direction should vocational educators move? Educational reform demands a response from vocational educators. What are the short- and long-term plans for change?

Reform Recommendation Themes

Eleven educational reform reports have been summarized in this paper. Five themes were found relating to vocational education in the recommendations of these reports.

1. Vocational education, especially on the secondary level, must be redefined and should include a clear summary of purposes, goals, services, and delivery methods.
2. Employers prefer to hire entry-level workers with a broad range of academic and vocational knowledge and skills.
3. Employers place a high value on the attributes exemplified by good workers. Schools should develop these attributes for both college-bound and work-bound students.

4. Cooperative education is an effective instructional method. Academic and vocational knowledge and skills are learned in school and practiced in the workplace. Employers serve as student instructors and role models, and are pleased with their participation in cooperative education programs.

5. Cooperative vocational education programs should be expanded. The cooperative education method satisfies many of the recommendations called for by educational reformers. Based on the past success of cooperative education, all vocational education programs should initiate the cooperative education method as an essential program component.

Cooperative Vocational Education

Cooperative vocational educators should be pleased that their efforts are being rewarded. But improvements can and must continue. There are many kinds of programs using the name of cooperative education. A clear distinction between work study, work experience, cooperative vocational education, and other field-based programs must be made. The elements that identify cooperative education are minimum rather than maximum standards. Each cooperative vocational education program must be measured by these minimum standards as a first step. Stricter standards designed to improve and strengthen programs must be formulated and implemented. While revising and improving standards, the needs and demands of employers and reformers should be strongly considered.

Curriculum content in cooperative vocational education programs needs in-depth analysis. General-related instruction should emphasize the good worker attributes valued by employers. Specific-related instruction should

combine the training needs of the employer with students' needs for skill development in a broader occupational area. Vocational as well as academic skills should be evaluated in-school and on-the job. Students need interaction with adult role models at the training station. A respect for lifelong learning is an essential trait to be developed by student-workers. The curriculum in cooperative vocational education programs should address these concerns.

All students should be given an opportunity to develop higher-order thinking skills. Cooperative vocational education students should demonstrate this skill by performance in the workforce. Employers must encourage thinking skill development by creating challenging job duties for all levels of workers. Teacher-coordinators need up-to-date information about employers' needs concerning types of skills required. Communication between schools and employers must be continuous, current, and dynamic.

All students must be eligible to participate in cooperative vocational educational programs. No student group should be excluded or prevented from entering these programs. At-risk students require special motivation to remain and succeed in school activities. Participation and employment in cooperative education programs should be a privilege and not an escape.

Teacher-coordinators need special training and valid work experience if they are to successfully create high quality programs. Administrative support is crucial to ensure program success. Teacher-coordinators need assistance from Department of Education staff and teacher educators in identifying current employment trends, curriculum innovations, and program evaluation. Employers can help by assisting with quality training plans and work experiences. Teacher-coordinators must develop and reward support from employers and

community groups. Teacher-coordinators have a multitude of duties and need support from several areas to maintain high quality programs.

Evaluating the success of cooperative vocational education programs needs in-depth attention. Short- and long-term effects should be identified and assessed. Past practices, successful and weak, need closer scrutiny to build more effective program components. States need to examine existing programs for improvement even while new programs are initiated. A nation-wide network focusing upon innovative strategies would be helpful. A national study highlighting program characteristics, enrollments, and placement success would be valuable.

Many more ideas for strengthening existing programs can be listed, and the closest scrutiny should come from within the cooperative vocational education profession. Definitions, purposes, and practices have been highlighted and praised by public commissions. But the road towards achieving quality is just beginning.

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